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ABSTRACT

This publication offers 10 major policy recommendations for improving the evaluation of secondary vocational education programs for special populations and ultimately the programs themselves. In the 10 sections following an introduction, each of the policy areas is introduced by a brief overview. A policy recommendation is then made along with a brief rationale and overview of potential benefits. The 10 recommendations are concerned with stakeholder involvement, context analysis, problem delineation, multiple goals, evaluation focus, process and product evaluations, multiple methods of evaluation, evaluation utilization, continuous evaluation, and managing the evaluation. An appendix lists characteristics of effective secondary vocational education programs for special populations. (YLB)

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GUIDELINES FOR EVALUATING SECONDARY VOCATIONAL EDUCATION PROGRAMS FOR SPECIAL POPULATIONS

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FOREWORD

Federal, state, and local education agencies have indicated the importance of evaluating vocational education programs for special populations. Comprehensive evaluation systems are needed to assess and ensure the effectiveness of efforts to provide quality vocational education to special populations. Understanding general characteristics of effective vocational education programs provides a framework for developing guidelines that will assist the education agencies in program improvement and planning efforts.

This report, Guidelines for Evaluating Secondary Vocational Education Programs for Special Populations, is one of two reports developed by the National Center staff engaged in studying the evaluation of secondary vocational education programs for special populations. The first report, Characteristics of Effective Secondary Vocational Education Programs for Special Populations, provides information on community, school, and program variables contributing to effective vocational education programs for special populations.

The National Center wishes to express its appreciation to the consultants and to the staff members who worked on the study. Consultants for the study were Dr. Edgar I. Farmer, North Carolina State University; Dr. Seymour Lesh, National Child Labor Committee; Dr. James P. Lewis, Pennsylvania Department of Education; and Dr. L. Allen Phelps, University of Illinois.

This project was conducted in the Evaluation and Policy Division, the National Center for Research in Vocational Education, under Dr. N. L. McCaslin, Associate Director. The project was initiated and conducted under the direction of Dr. Stephen J. Franchak, Senior Research Specialist. The writing of this report was completed under the direction of Dr. Floyd L. McKinney, Senior Research Specialist. The project staff members were Dr. Valija M. Axelrod, Research Specialist; Marie A. Parks, Program Assistant; and Robert A. Mahlman, Paul V. Unger, and Michael Smith, Graduate Research Associates. Final editorial review of this report was under the direction of Judy Balogh of the National Center's Editorial Services area.

The primary target audiences for this report are vocational education evaluators and national, state, and local education personnel concerned with program evaluation as a way to improve secondary vocational programs for special populations.

This project was funded by the Office of Vocational and Adult Education, U. S. Department of Education.

Ray D. Ryan
Executive Director
The National Center for Research
in Vocational Education

EXECUTIVE SUMMARY

Although vocational educators have addressed the need for special populations to have full access to quality vocational programs, few resources exist concerning the overall process essential for evaluating vocational programs for special populations. This report presents overall guidelines for evaluating secondary vocational education programs for special populations. The following recommendations for improving the evaluation process were identified based on a review of evaluation literature, input from experienced evaluators, and the characteristics of effective secondary vocational education programs for special populations.

EVALUATION GUIDELINES

Stakeholder Involvement

-- The role of stakeholders in program evaluations should be expanded. The evaluation should involve individuals in the program to be evaluated and those affected by the evaluation. Evaluations should be conducted in ways that encourage follow-through by stakeholders.

Context Analysis

-- Because the combination of contextual factors surrounding the program influences its functioning, the context in which the program exists should be examined in sufficient detail to ensure that the evaluation is responsive.

Problem Delineation

-- Problems to be considered in program evaluation efforts should be identified and developed by people who are involved in and affected by the program.

Multiple Goals

-- Evaluation should consider all goals of the program not just those goals that are required to be evaluated by federal mandates.

Evaluation Focus

-- The evaluation should consider as many areas of the program as are practical and recognized as being of importance.

Process and Product Evaluations

-- Process evaluations of vocational education programs for special populations should be related to program outcomes.

Multiple Methods

-- The evaluation methodologies should be selected to be congruent with the evaluation objectives. A blending of quantitative and qualitative methodologies may be appropriate. The evaluation should recognize that different methods are appropriate for different situations.

Evaluation Utilization

-- Program evaluations should be conducted and reported to ensure that the diverse information needs of specified audiences are met.

Continuous Evaluation

-- Evaluation should be a continuous process which entails problem identification and problem resolution phases.

Managing the Evaluation

-- The responsibility for evaluation and improvement of vocational education programs for special populations should be placed under local management.

INTRODUCTION

Vocational education opportunities in secondary schools are provided to special populations for a variety of reasons. First, these individuals have the same needs as anyone else to develop skills necessary to enter the labor force and to become contributing members of society. Second, it is far more cost-effective to educate these students than to provide public support on an ongoing basis. Third, equal educational rights include access to vocational education programs. Fourth, federal legislation mandates the continuing emphasis on providing quality vocational education for special populations. Federal interest to serve special populations is strong. But, answers to the question "How well and to what extent are special populations being served?" are hampered by a lack of credible information.

The lack of vocational education program evaluation information for special populations deters efforts toward program improvement. If meaningful secondary vocational education programs are to be provided for special populations, we need to know what the characteristics of effective programs are and to develop evaluation guidelines that will assist educators to improve program efforts.

To help meet these objectives, the National Center for Research in Vocational Education conducted a study to determine the characteristics of effective secondary vocational education programs for special populations. Within an organizing framework selected for the study, three major approaches were used to collect a comprehensive set of data. The approaches were a review of the literature, on-site visits to local schools, and a mail survey of state coordinators of secondary vocational education programs for special populations. The organizing framework and the research methodology are detailed in the companion report Characteristics of Effective Secondary Vocational Education Programs for Special Populations. That report is thematically organized around the following areas:

- o Elements of Quality
  - General Context
    - -- School setting
    - -- Classroom setting, including facilities and equipment
    - -- Personnel characteristics
    - -- Student characteristics
    - -- Financial
  - Educational Experience
    - -- Preassessment

-- Individualized education programs

-- Curriculum

-- Instruction

-- Support services

o Assessing Quality

- Program Evaluation

- Student Evaluation

Each area in the companion report addresses key characteristics essential to effective secondary vocational education programs for special populations--characteristics that are indicative of quality programs. The characteristics of effective secondary vocational education programs for special populations are provided in appendix A. Of particular relevance to the second phase of the study, were the findings related to program evaluation. Effectiveness criteria suggested in the characteristics study are as follows:

o A large variety of people who are involved in the program are also involved in the evaluation of the program.

o A variety of input, process, and outcome variables are considered during the evaluation.

o Evaluation reports have multiple uses including program planning, improvement, accountability, and legal compliance.

o Employers and parents are involved in the evaluation of the program.

These four effectiveness criteria led to the identification of major areas within which guidelines for conducting program evaluations would be developed. The areas were stakeholder involvement, multiple goals, evaluation focus, and evaluation utilization. Although these areas were covered specifically under program evaluation, the characteristics study contained valuable information for helping direct evaluation efforts yet further. Six additional areas that emerged from an in-depth analysis of the characteristics study and a review of evaluation literature were context analysis, problem delineation, process and product evaluations, multiple methods, continuous evaluation, and managing the evaluation.

The guide is intended to serve as a resource for evaluating secondary vocational education programs for special populations. The purpose is not to write another textbook--with definitions of concepts, discussions of underlying theories, critiques of evaluation models, and references to the literature--or another "how-to" book with lengthy step-by-step procedures designed to take the totally uninitiated reader through the evaluation process. Rather, this publication presents guideline recommendations intended for use and adaptation by individuals involved in policy making, planning, and evaluation of vocational education programs for special populations. For example, as administrators in local education agencies continue in their quest for educational excellence, this guide will

provide a logical framework for planning and conducting evaluations of vocational education programs for special populations.

The ultimate beneficiaries of this guide are the individuals who, as defined by the Department of Education, fit into at least one of the following categories:

> Disadvantaged--individuals (other than handicapped individuals) who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. This term includes individuals who are members of economically disadvantaged families, migrants, individuals who have limited English proficiency and individuals who are dropouts from, or potential dropouts from, secondary schools.
>
> Handicapped--individuals who are mentally retarded, hard of hearing, deaf, speech impaired, deaf-blind, or multihandicapped, or persons with specific learning disabilities who by reason thereof require special education and related services, and who, because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance.
>
> Limited English proficient--individuals who were not born in the United States or whose native language is a language other than English; who came from environments where a language other than English is dominant; or who are American Indian and Alaskan Native students and who come from environments where a language other than English has had a significant impact on their level of English language proficiency; and who by reason thereof, have sufficient difficulty speaking, reading, writing, or understanding the English language to deny these individuals the opportunity to learn successfully in classrooms where the language of instruction is English or to participate fully in our society.
>
> Single parent--an individual who is unmarried or legally separated from a spouse; and has a minor child or children for which the parent has either custody or joint custody.

In addition to the four population groups named above, there is recognized also a need to overcome sex bias and sex stereotyping in our nation's vocational education programs. These definitions follow:

- Sex bias--behaviors resulting from the assumption that one sex is superior to the other.
- Sex stereotyping--attributing behaviors, abilities, interests, values, and roles to a person or group of persons on the basis of their sex.

This publication, Guidelines for Evaluating Secondary Vocational Education Programs for Special Populations, offers 10 major policy recommendations for improving the evaluation of secondary vocational education programs for special populations and, ultimately the programs themselves. Very few of the guidelines are currently being followed nationwide. In fact, staff efforts to obtain direct input from the field were not as successful as had been hoped. Program evaluations as currently conducted are not directed generally at program improvement, in part, because federal, state, and local agencies are charged with so many program accountability responsibilities.

The evaluation guidelines are based on a review of evaluation literature, recommendations from experienced program evaluators who have a strong and continued interest in program improvement for special populations, and on findings stemming from the research conducted to carry out this study. The companion document to this report can serve a particularly useful purpose in identifying content considerations for the program evaluation. This guide, on the other hand, focuses on the processes involved in conducting the evaluation itself. In the following sections, each of the 10 policy areas is introduced by a brief overview. A policy recommendation is then made along with a brief rationale and potential benefits.

EVALUATION GUIDELINES

1. STAKEHOLDER INVOLVEMENT

Too often, evaluation is viewed as a necessary evil mandated by federal legislation and conducted by an expert consultant or external team. And, the evaluation is expected to be accomplished with minimum disruption to the ongoing activities of the program. However, to produce the desired result of program improvement, evaluation efforts must involve the many parties that have a stake in vocational education programs for special populations.

Stakeholders include individuals who will make decisions based upon evaluation findings, persons involved in program planning and implementation, persons sponsoring the evaluation, persons who may be affected by the evaluation, program advocates, and the target group. In other words, stakeholders are students, teachers, administrators, counselors, parents, and employers, among others. Of particular importance to vocational education programs for special populations is involvement on the part of parents, employers, and students. Because parents have so much at stake and sometimes hold negative attitudes toward the program, it is essential that they be given the opportunity to contribute to program improvement through their inputs to the evaluation process. Employers, as the source of employment, hold one of the keys to graduates' success. Special population students, of course, have the greatest stake in the results of the evaluation and could offer valuable input.

Stakeholders' viewpoints are as diverse as their expectations of the program. For example, administrators expect cost-effectiveness, employers expect trained workers, and students expect adequate preparation for future life roles.

If vocational education programs targeted for special populations are to further the national commitment to equal educational opportunity, consistent input from program stakeholders must be a major priority in the evaluation process. The inadequate consideration of the needs and opinions of the groups intended to benefit from programs affects not only the kinds of questions asked about programs, but also results in insufficient information that prevents these groups from knowing how to make the programs more effective.

Stakeholder involvement throughout the evaluation process is crucial. Initially, stakeholders can be instrumental in identifying goals and major problem areas. They will be valuable sources of assessment data during the evaluation itself. And, stakeholders can help interpret evaluation findings, can make suggestions for modifying programs, and can take an active role in bringing about the desired changes.

The role of stakeholders in program evaluations should be expanded. The evaluation should involve individuals in the program to be evaluated and those affected by the evaluation. Evaluations should be conducted in ways that encourage follow-through by stakeholders.

Stakeholder involvement in the total evaluation process will facilitate program improvement efforts. Program improvement generally implies change, and change of any type is typically met with resistance. As a result of active involvement, stakeholders will develop support for the program and commitment to making the change.

Stakeholder involvement ensures that the right problems for a particular setting are addressed. External evaluators may fail to focus on the real problems and be less responsive to the needs and interests of specific audiences. Stakeholder involvement further ensures that the data collection methods and the information generated would be viewed as valid.

The potential benefits of this recommendation include the following:

- Increased use of evaluation results
- Attention to problems that are of particular importance to the setting
- Furtherance of equal educational opportunity
- Commitment to program improvement and the changes needed to bring it about
- Sense of program ownership
- Greater collaboration among program constituents

Stakeholders who are involved in the evaluation process are more likely to believe and to use the results of the evaluation. For example, a learning disabilities teacher who has helped to identify difficulties in maintaining classroom discipline as a problem is more likely to accept and implement suggestions for dealing with short attention spans, negative self images, and demands for attention. In another example, a survey of state vocational education special population coordinators revealed that there was a need to involve more employers in the evaluation of programs. Employers who are not hiring graduates of special population programs can develop a deeper understanding of the program and greater interest in the graduates when they are involved in program evaluations.

2. CONTEXT ANALYSIS

Most evaluations of secondary vocational education programs for special populations do not give adequate consideration to the educational and community settings. The program setting is the environment within which the program operates. Vocational education programs for special populations are conducted in area vocational schools, magnet schools, comprehensive high schools, and alternative schools; they are conducted in remote rural areas, congested urban districts, and the suburbs; they are conducted in communities with high unemployment rates and in communities characterized by high socioeconomic status; they are conducted in newly appointed facilities or in buildings that long ago outlived their usefulness.

Just as these physical environments vary, so do social environments vary. Student demographics, school-community linkages, and the nature of staff are illustrative aspects of the social context. For example, we must recognize that students participate in vocational education programs to various degrees. Participation ranges from extensive involvement in vocational education to incidental enrollment in a single course. This diversity of vocational education experience is an important contextual factor to consider when we make decisions about the delivery of vocational education programs to special populations.

Evaluations that do incorporate a context analysis component sometimes go overboard and expend all resources available on "getting a feel for the program." This results in a failure to identify needed program improvements and obtain measures of program quality. An understanding of the contextual factors is important to determine what course of action may be taken or what factors affect certain program outcomes.

Because the combination of contextual factors surrounding the program influences its functioning, the context in which the program exists should be examined in sufficient detail to ensure that the evaluation is responsive.

The context in which the program operates cannot be ignored in effective program evaluations. Context analysis provides for developing a better understanding of major factors that influence the program. Such information is required to ensure that the interpretation of evaluation findings is realistic and appropriate for the situation. A clear description of the constraints within which the program is offered will help others judge its potential for success in other, similar contexts. Such information will encourage broader application of successful vocational education practices.

It is important to note that context analysis is closely tied to stakeholder involvement. Stakeholders are in the best position to identify program constraints. Therefore, this is an area through which stakeholder involvement in the evaluation can be developed.

The recommendation to examine the program's context has the following potential benefits:

- Increased responsiveness
- Enhanced communications among administrators, teachers, evaluators, students, and special interest groups
- Higher quality information for program planning
- Greater stakeholder involvement
- Improved adaptability of program components in similar settings
- Broader use of successful practices

Although context analysis is important to the evolution of all programs, it is of particular importance to students with special needs. For example, the lack of access to the facility itself or to classrooms within a facility still represents a barrier to the physically handicapped student. Many older school buildings have numerous staircases and no elevators. In this instance, the physical barrier is insurmountable for some handicapped students. In other instances, the barriers may be more subtle. Work stations that are too high for a student confined to a wheelchair represents another type of barrier. Evaluations that take into account these types of factors can identify these barriers and propose viable solutions, in other words, be more responsive. Trying to be more responsive will both contribute to and benefit from enhanced communications and greater stakeholder involvement. The contextual analysis that focuses upon the needs of a special population is bound to yield higher quality information, improved adaptability of program components, and broader use of successful practices.

3. PROBLEM DELINEATION

One of the major reasons for the lack of program improvement activity at the local level is the fact that local decision makers pay little attention to evaluation findings--particularly those conducted to meet federally and state level-inspired requirements. Factors important to program decision making at the local level are not generally considered in most mandated evaluation efforts.

Relying on major trends found in state-level evaluations may not be realistic in light of the needs in a specific community. Because every school district must look at its own information needs, the problem identification process is tied closely to context analysis and stakeholder involvement. Program stakeholders must play a role in identifying the problems to be addressed by the evaluation, since they are the ones who will be making the program improvement decisions. This involvement will help overcome the lack of reliance on program evaluation findings.

Identifying problems to be addressed becomes an integral part of the evaluation process itself. As the various audiences interact and present their differing views, the more important problems begin to emerge. Problem identification can be facilitated by input from the various audiences who may hold similar opinions on some issues and widely disparate or even conflicting views on others. As the groups discuss and debate the issues, they learn to compromise and reach consensus on the important problems. What is more important, however, is that even without consensus, the evaluation can be responsive to the needs of multiple audiences if they are involved in the process of problem identification and clarification.

Problems to be considered in program evaluation efforts should be identified and developed by people who are involved in and affected by the program.

Problem delineation by individuals involved in and affected by the program is of particular importance in ensuring the timeliness of the problems to be addressed. Trends in such areas as demography, the labor market, societal expectations, and technology are likely influences on each participant's perceptions of the vocational education program at a given point in time.

Individuals involved in the problem delineation phase will develop a better understanding of the program and what it is trying to achieve. They will also gain insight into the expectations of other key groups. Involvement with different audiences will give all stakeholders a broader perspective of the program.

Potential benefits likely to accrue from the implementation of this recommendation include the following:

- A problem framework for guiding the evaluation effort
- Easier identification of problem sources and the barriers to overcoming them
- Greater objectivity in problem identification
- Increased utility of evaluation findings
- Common understanding of program

Whereas the evaluation process may be generically applied to many different educational programs, the problem framework for special population groups will be different because of differences in the characteristics of the students. A program for the severely handicapped, for example, must deal with the handicaps of the students in terms of facilities, equipment, teaching materials, schedules, and so forth. The delineation of these problems will make it easier to identify their causes and the difficulties in dealing with them; for example, once behavioral problems are identified as a problem area for the learning disabilities program, it will be easier to discover the sources of the problems and the barriers to solutions. If the problems are identified by a full range of stakeholders--by representatives of school, home, and community--they are likely to be more objectively stated and better balanced. Problems delineated in this way will be utilized more fully and the entire community will develop a deeper understanding of the program's goals and of the special populations it serves.

4. MULTIPLE GOALS

Secondary vocational education for special populations has as one of its main goals to impart entry-level job skills. However, vocational education is concerned also with providing experiences that prepare youth for continued educational opportunities, as well as for family, social, civic, and personal responsibilities.

Federal vocational education legislation has provided the impetus for using standardized outcome measures to assess vocational education quality. In 1976, Congress introduced standardization by requiring that all vocational education programs be evaluated according to two major criteria: (1) the extent to which program participants find jobs within their area of training and (2) the extent to which employers are satisfied with their training and preparation for employment. These criteria still drive the development of many vocational education programs in spite of the fact that the current legislation takes a broader view. The Carl D. Perkins Vocational Education Act of 1984 calls for evaluative measures such as "(i) the occupations to be trained for, which will reflect a realistic assessment of the labor market needs of the state; (ii) the levels of skills to be achieved in particular occupations, which will reflect the hiring needs of employers; and (iii) the basic employment competencies to be used in performance outcomes, which will reflect the hiring needs of employers." The underlying philosophy of the legislation is that better information will yield better decisions and that the quality of vocational education programs ultimately will be improved.

The effect of this emphasis is that program evaluations have often been conducted as a matter of compliance for federal reporting with little attention to other aspects of program quality. In these instances, the program improvement needs for local vocational education programs have not been well served by these evaluations.

To provide information for program improvement, evaluations of vocational education programs must go beyond assessments and against the traditional criterion of preparation for job placement. In searching for other indicators of program quality, we must consider individual development, societal needs, and future change.

When dealing with special populations, we should be particularly well aware of the fact that vocational education programs must address the unique differences among individuals and among groups in order to educate them for future societal roles, including work. Describing and assessing the different approaches for special populations will increase the likelihood that the program will be responsive to these differences.

Program evaluation must, therefore, be based upon a recognition of the fact that programs have multiple goals--goals that are often conflicting. This recognition will foster and promote local program improvement efforts by helping identify some different approaches that could be taken in addition to meeting federal reporting requirements.

<u>Evaluations should consider all goals of the program not just those that are required to be evaluated by federal mandates</u>.

Recognizing that secondary vocational education programs for special populations also have multiple goals will do much to help present a clearer and more accurate picture of vocational education programs for special populations and how they can be improved. It is imperative to understand that there are two important uses of data from evaluation efforts: reporting purposes and program improvement. Often, data collected for one purpose may enhance data for the other and enrich the interpretation of both.

The recommendation to consider the program's multiple goals is applicable to all vocational education programs; it is especially important for special population programs. Numerous philosophies impinge upon the directions taken in vocational education programs for special groups. As a result, both the number of alternative approaches implemented and the number of program goals are typically increased.

The potential benefits stemming from the recommendation include the following:

- High-quality information for local program improvement efforts
- Data that are of greater relevance to the local school setting
- A stronger position for advocacy of vocational education
- Recognition of important program quality factors

The information from an evaluation that stems from multiple goals locally derived is likely to be of higher quality than that of an externally inspired evaluation. It is likely to be more relevant locally, better understood, and more useful in program improvement. The parents of special population students will be less resistant to enrollment in vocational education programs when they recognize the multiple goals of the program revealed in its evaluation. Further, these parents and other stakeholders are more likely to be advocates of vocational education for special populations when they see evaluation results which show that their children are being well served by the program.

5. EVALUATION FOCUS

Throughout the nation, hundreds of instructional strategies are being tried in classrooms, schools, and districts--computer-assisted instruction, self-programmed learning, competency-based instruction, team teaching, to name a few. In addition to these, other more traditional practices are being implemented in secondary vocational education programs.

To identify those developments most likely to further vocational education goals, is one major purpose that evaluation can serve. Problem delineation, as an early step in designing an evaluation, may result in a long list of problem areas that must be focused on to ensure manageability. A number of key factors are commonly recognized as being of primary importance in determining the effectiveness and efficiency of secondary vocational education programs for special populations. Thus, the evaluation may consider the following areas:

- o Student referral
- o Student placement
- o Student progress
- o Student outcomes
- o School and classroom climate
- o Staff behavior and satisfaction
- o Organization of programs/services
- o Resources
- o Instructional practices

In more general terms, the evaluation should focus on four general aspects of the program: context characteristics, student characteristics, characteristics of program implementation, and program outcomes.

Evaluations that fail to take into account these major aspects of the program have findings that are difficult to interpret and limited in future utility. Evaluations that fail to set manageable limits may never be completed or may overwhelm those engaged in the evaluation effort or the audience with data.

The evaluation should consider as many areas of the program as are practical and recognized as being of importance.

Because decisions about exactly what to evaluate are situation-specific, it is important to maintain the involvement of stakeholders in focusing the evaluation. This

will ensure that appropriate areas will be investigated, and that the general thrust of the evaluation will serve the needs of program constituents.

In addition, the stakeholders will be helpful in identifying sources of evaluation data, recommending schedules for collecting data, and describing the decision-making process to be served. In this way, objectives for the evaluation can be developed. These objectives will guide the evaluation process and facilitate coordination of its various parts.

The potential benefits of this recommendation include the following:

- Increased probability of uncovering program effects
- Information that is credible
- Depth with sufficient breadth of information about the program
- Ability to compare programs on common factors
- Obtaining information when it is needed

An evaluation effort that focuses on the major aspects of the program is more likely to uncover program effects; for example, it might uncover the negative aspects of social interactions that are taking place between special populations students, teachers, and peers. An evaluation that failed to uncover this aspect would be less credible to any of those involved in the interaction. The information about these interactions would need to be deep and broad enough to suggest ways to improve them for the benefit of the special populations student. An evaluation focus that is clear will make comparison with other programs more feasible when similar concerns are addressed.

6. PROCESS AND PRODUCT EVALUATIONS

Program evaluations in vocational education have emphasized summative and product evaluations with little attention to the processes of educational practice. Summative or product evaluations are conducted for the purpose of making basic decisions about whether or not the program is effective and to answer the question of whether or not the program should be continued, expanded, or terminated.

Although product evaluations are useful, they provide little help in understanding the internal dynamics of program operations. Process evaluations, on the other hand, require a detailed description of these operations. A process focus in an evaluation places emphasis on looking at how an outcome is produced rather than looking at the outcome itself. From this perspective, we recognize that a process evaluation follows an inductive approach.

A process focus requires that we pay close attention to both quantitative and qualitative changes in programs throughout their development and implementation. Process evaluations are particularly important for revealing areas in which programs can be improved. In fact, the major reason for conducting process or formative evaluations is program improvement.

In addition to looking at planned program activities and anticipated program outcomes, a formative evaluation takes into account informal patterns and unanticipated consequences throughout the program development and implementation cycle.

Process evaluations of vocational education programs for special populations should be related to program outcomes.

Process evaluations are designed and implemented to monitor program progress and to stimulate changes that would ensure eventual program success. Because vocational education programs, especially those for special populations, often apply creative or emerging instructional techniques, student outcomes cannot always be accurately predicted. For this reason, process evaluation, which provides periodic feedback to stakeholders about program practices, is more useful. Process evaluations suggest areas in which programs may already be meeting their goals as well as those in which improvement or a procedural change is necessary.

Process evaluation is iterative in nature. Assessments of program success are made throughout the program to provide supplementary information about the results of previous changes. The periodic information to students, teachers, and others is often a source of encouragement and the continuing flow of information about the program to administrators helps direct or redirect the allocation of resources to provide better support to the program.

Potential benefits stemming from this recommendation include the following:

- o Understanding of program dynamics
- o Adjustments to program on ongoing basis
- o Improved programs and services for special populations

An understanding of program dynamics by all parties involved in a vocational education program for special populations is essential to program improvement. The process evaluation that provides data about the ongoing program operation facilitates course adjustments that improve overall services. For example, the need to provide additional support services (e.g., tutors, notetakers) may be identified when students first encounter difficulties in mainstreamed classes. Unlike summative evaluations that require a longer program improvement cycle, process evaluations appear to be far more responsive, less threatening, and easier to use. This guideline, along with the others recommended, involve the stakeholders in critical aspects of the program.

7. MULTIPLE METHODS

The nature of the problems to be addressed by the evaluation should be the key determinant for the data collection methods to be used. Evaluations are far too frequently carried out by first determining the methods to be used and then determining what can be assessed. In other words, the evaluation design dictates the questions that can be answered by the evaluation. More appropriately, the evaluation design should stem from the problems and goals of the program, and its methods should be congruent with the evaluation objectives.

Both qualitative and quantitative evaluation methods are useful in assessing vocational programs. Qualitative forms of inquiry hold promise for providing a complete and realistic picture of secondary vocational education programs for special populations. Qualitative methods are oriented more to process evaluation than quantitative methods and are generally used to understand programs in their entirety. They look at various parts of the program in relation to each other and do not impose any preexisting expectations. Qualitative data are collected in ways that do not intrude in the ongoing activities of the program. The use of qualitative methods of inquiry results in detailed descriptions of situations, events, and people and offers insightful suggestions about their impact on program effectiveness.

Quantitative methods, too, have a place in the evaluation of vocational education programs and offer advantages when used in some situations. These methods are the traditional ones used to evaluate secondary vocational education programs, resulting in numerical data that can be summarized or otherwise manipulated. However, any one aspect of the program will be studied in less depth when only quantitative methods are used. The data generated in quantitative studies are said to be convergent, because whatever is being measured is reduced, placed in a category, and assigned a number. What that number means--how it can be interpreted--may be shallow without accompanying qualitative data. A combination of methodologies using both quantitative and qualitative strategies will usually provide a fuller view of all program aspects.

In addition to using a variety of data collection methods, an evaluation can be enhanced by obtaining information from multiple sources. Program records and other documentation, interviews with key people, observations, and questionnaires are representative sources of data. By using a variety of data sources, one can capitalize on the strengths of each type of data collection while minimizing the weaknesses inherent in any one of the approaches.

The evaluation methodologies should be selected to be congruent with the evaluation objectives. A blending of quantitative and qualitative methodologies may be appropriate. The evaluation should recognize that different methods are appropriate for different situations.

Use of multiple methods contributes to the methodological rigor of the evaluation and the likelihood that key aspects of the program will be addressed. The selection of appropriate information sources and methods should initially be driven by program goals and evaluation objectives. The selection is also governed somewhat by practical concerns. For

example, data already available, resources available for conducting the evaluation, and the feasibility of employing certain procedures may suggest particular strategies. In addition, the ease of analysis, availability of analytic tools, and the reporting requirements and timeframe may limit the data collection methods and information sources that are viable components in the evaluation design.

Potential benefits of using multiple methods include the following:

- Appropriateness of information for type of evaluation question to be answered
- Credibility of evaluation findings
- Increased acceptance of findings by program constituents
- Greater methodological rigor

Persons involved in programs for special populations--whether they are students, parents, employers, or educational professionals--will judge the credibility of an evaluation on the basis of the appropriateness of the information provided. For example, parents of special needs students who are experiencing great difficulties in a vocational education program will not find credible evaluation results that laud the program as excellent without recognizing obvious shortcomings. To the extent that the appropriateness of information is a function of methods used, the acceptance of findings will be dependent on methods and the rigor with which they are applied. Because much of the data will be collected from those involved in the programs, they will be generally aware of the validity of the findings.

8. EVALUATION UTILIZATION

A frequently voiced criticism of evaluation is that evaluation findings are seldom used. The use of evaluation results by various audiences depends upon several factors. These include the evaluator's role in the dissemination of evaluation results, the resistance to change, the availability of evaluation information, the timeliness of the evaluation results, and the nature of the evaluation findings themselves.

Evaluators need to ensure that all of the appropriate audiences receive the results of evaluation efforts. More important, audiences should be differentiated because they have varying kinds of interests in the evaluation. Reports, whether they be written, oral, formal or informal, should communicate the evaluation results in a manner that can best be understood by their intended audiences.

Evaluators often perceive their role in the evaluation process as finished when they have produced a single report and turned it over to the sponsor or administrator. Yet, it is the evaluator who through work with program constituents may have the greatest credibility in presenting or describing the evaluation to various audiences. Without an informed and knowledgeable spokesperson, the evaluation may simply die on the program administrator's desk.

Evaluation findings are not utilized in many instances because of the organization's resistance to change. This resistance is evident when the reviewers of reports simply receive the findings in a one-way transmission. However, stakeholder involvement in the evaluation process that stimulates interest in its results and builds commitment to program improvement predisposes program constituents to change.

Timeliness of evaluation information is especially important to serve a decision-making purpose. If the evaluation does not produce credible information at appropriate points in time, decisions are delayed or made without this input as a guide. Again, the utility of evaluation findings is reduced.

Frequently, evaluation results are viewed with the sole purpose of directing decision making. This narrow view limits the potential utility of evaluation findings for other purposes--to create support for the program, to increase people's awareness about the program's benefits, and to help shape policy.

Finally, the nature of the evaluation findings influences their potential usefulness. Evaluation findings that help promote understanding by providing information that may be used to interpret activities, problems, or outcomes in light of audiences' beliefs, knowledge, or values have the highest utility potential.

Program evaluations should be conducted and reported to ensure that the diverse informational needs of specified audiences are met.

Evaluations of secondary vocational education programs need to become something other than compliance efforts. They need to focus on program improvements that can be brought about by credible and valid information. Because of the various program stakeholder

groups, it is important to consider the various audiences throughout the evaluation and, at the same time, to consider alternative purposes for conducting the evaluations.

Evaluation reports can be used to demonstrate program accountability, to promote understanding, and so on. These purposes can all be served if the evaluation is designed with the future utility of its results in mind.

Potential benefits of increasing evaluation utility for specified audiences include the following:

- Improved programs for special populations
- Stronger advocacy arguments
- Improved evaluation research database
- Increased understanding of the program
- Support for special populations needs
- Replicability information for future evaluations
- Acceptability of evaluation findings

The administrator who wants to justify smaller classes or more appropriate equipment for special populations needs credible data to support arguments before the school board. The special populations parent advocacy group also needs this data for presentation to the state legislature or local school board. In the longer run, the research community needs to improve its database about special populations programs. All of this will eventually increase understanding of the program and generate support.

9. CONTINUOUS EVALUATION

Development of knowledge needed to formulate better secondary vocational education programs for special populations is a long-term process. As evaluation becomes a more regular and systematic part of vocational education endeavors, its findings expand the knowledge base. Because program improvement is contingent on this knowledge, regular contributions to the knowledge base are required. Unfortunately, program evaluations that are conducted sporadically--annually or less often--contribute little.

Program improvement is most likely to occur through the systematic identification of specific problem areas and the creative resolution of the identified problems. Evaluation is an effective problem-solving approach. Clarifying a problem, collecting information, synthesizing information, acting on information, and providing feedback are its essential steps.

The problem delineation component of evaluation emphasizes the importance of problem identification as the first step in evaluation of secondary vocational education programs for special populations. The evaluation is then focused, data are collected, and meaningful information is generated and interpreted. Corrective actions may be specified for the identified problems; the actions may also lead to the identification of new problems, making the evaluation a continuous, cyclical process.

The concept of evaluation as set forth herein is that of a dynamic and evolving process, one that permeates each aspect of program planning, development, impelementation, and resulting outcomes. When evaluation is a part of the planning process and is incorporated in the implementation of those plans, it can provide information about how the program is doing and can indicate corrective actions to overcome program deficiencies.

Evaluation should be a continuous process that entails problem identification and problem resolution phases.

Continuous evaluation of vocational education ensures regular contributions to our understanding of its goals and benefits. This knowledge provides general direction for the field and ensures its contemporary focus.

Continuous evaluation encourages ongoing examination of important problems and solutions to overcome them. It also stimulates the generation of alternative strategies when the current solution is not producing the desired result. Continuous evaluation also permits the examination of emerging issues suggested by societal changes or the evaluation findings themselves.

Another advantage of ongoing evaluation is the continuous flow of information to program stakeholders. This information stimulates program change and improvement: the purpose of continuous evaluation.

The recommendation set forth in this section has several potential benefits including the following:

- Greater likelihood of incremental program improvements
- Immediate and continuous planning and improvement
- Greater knowledge about effective processes and practices

Under the recommendation for process evaluation, the case was made for shorter program improvement cycles; that is, making corrections during the course of the program. Not all problems can be dealt with on the short run, but require longer term solutions. Therefore, it is essential that evaluation be continuous so that the larger problems may be dealt with incrementally, also. For example, it has been found that teachers hold the least favorable attitudes toward teaching educable retarded students. Deep-seated attitudes about the category of handicaps require incremental measures, the results of which need to be assessed repeatedly. The attitudes of program personnel are essential to program success. The continuous evaluation process leads to more knowledge about the effectiveness of processes and practices. The pre assessment process used in developing individualized education plans (IEP) is a case in point. The assessment of results of IEPs can be the basis for curriculum modification; in other words, the IEP can be a vehicle for program evaluation as well as an individual planning tool.

10. MANAGING THE EVALUATION

Managing an evaluation entails orchestrating the conduct of all evaluation functions--problem delineation, focusing, designing, data collection, data analysis, interpretation, and reporting. Management of evaluation begins before the study is initiated and runs through the entire evaluation.

One of the major impediments to producing evaluations of high quality for program improvement has been the locus of leadership for managing the evaluation activities. Evaluations of secondary vocational education programs for special populations are most frequently conducted under state-level leadership. Although state agencies play an important role in providing accountability data to the federal government, they sometimes are unable to respond to the local context.

Sometimes, the responsibilities of local and state education agencies are not clearly differentiated, which further compounds the problem. The capabilities and incentives for producing reliable, credible information are reduced when roles are not clear.

At other times, the evaluation procedures outlined by state agencies do not address local concerns and may not take full advantage of local information sources. Because the composition of the special populations served varies so greatly from district to district, generalized evaluations are of little use to all concerned.

The responsibility for evaluation and improvement of secondary vocational education programs for special populations should be placed under local management.

Evaluation can be a costly undertaking. If the management of the evaluation remains at the local level, costs can be reduced by eliminating the delays and additional coordination requirements that are associated with several levels of bureaucracy.

Local management ensures the delineation of problems in ways that consider the program history and context. Broad-based local planning of the study will involve various program stakeholders and will identify key sources of information all of which will improve the potential for acceptance of the evaluation findings.

In addition to ensuring sensitivity to community and program information needs, local management of the evaluation should be aware of the schedule by which those needs should be met and the data collection methods that would be deemed credible. The timeliness and validity that accrue to the findings of locally managed evaluations raise the potential for their eventual use.

Potential benefits of this recommendation include the following:

- Increased sense of ownership in the evaluation
- Cost-effectiveness
- More responsive evaluations
- Incremental approach to program improvement

State administrators prefer to administer evaluations from the state level, but complain of insufficient funds to do so. An external evaluation can be very threatening especially if it is administered by a higher level agency that may also control funds. When administered at the local level with the input from stakeholders, there is a sense of ownership that increases credibility which increases the chance of utilization. Because time and distance are less factors, and because some costs can be absorbed locally, the locally administered evaluation is less costly. For most local personnel, the results will be more responsive to their needs. Further, improvements are more likely to be implemented incrementally simply because the evaluation is more likely to be a continuous process. For example, the personnel in a handicapped program are far more apt to cooperate in a continuous process of evaluation if it is locally administered and it has the input, attention, and cooperation of the parents of the handicapped students in the program. The local personnel would be more cooperative in providing data and more responsive to the results, all at a savings in cost.

APPENDIX A

CHARACTERISTICS OF EFFECTIVE SECONDARY VOCATIONAL EDUCATION PROGRAMS FOR SPECIAL POPULATIONS

A major goal of this study was to identify the characteristics of effective secondary vocational education programs for special populations (handicapped, disadvantaged, limited English proficient, single parent, and individuals enrolled in programs to eliminate sex bias and sex stereotyping). Data for the study came from a review of the literature, on-site visits to local schools, and a mail questionnaire to state coordinators of secondary vocational education programs for special populations. Based on the analysis of the data, the following were identified as characteristics of effective programs.

- o Community Setting
  - School personnel should encourage parental involvement in the program.
  - School personnel should actively and systematically provide parents with information concerning programs and services available to the parents and the students.
  - Public awareness programs should be included in school activities.
  - School personnel should be involved in educating employers in order to dispel common misconceptions about employing special populations workers.
  - School personnel should routinely be involved in developing contacts with employers.
  - Employers and other community members hold positions on school advisory committees.

- o Classroom Setting and Facilities
  - The number of students in classes with special populations students should range from 11-15 students.
  - Positive social interactions between special populations students and non special populations students should be encouraged.

- All students should have easy access to and movement through the classroom.

- Assessment of equipment needs should be made on an individual basis.

- Special equipment that cannot be purchased should be custom built on the premises.

- A school staff member should be assigned the responsibility of obtaining and providing information to special populations students on the types of special equipment available.

- School personnel should put forth an extra effort to accommodate the architectural and equipment needs of the students.

o Personnel Characteristics

- Staff should be willing to experiment and should be innovative in the search for the most effective method for teaching each special populations student.

- Teachers should be positive role models and should attempt to alleviate social rejection by the student's classmates.

- School personnel should be non biased toward special populations students.

- School personnel should enjoy working with special populations students and should be willing and able to work with students on an individual basis.

- School personnel should show patience when working with students.

- Teachers should have confidence in their abilities to work with special populations students.

- Administrators should have positive attitudes toward accommodating special needs populations students and are supportive of teachers.

- School personnel should have expertise in their subject field and additional training to work with special populations students.

o Financial

- Multiple sources of funds are coordinated to maximize their effective and efficient use.

- Funds should be available to maintain up-to-date equipment and materials.

o Pre Assessment

- Identification of learning styles, physical and/or behavior problems, and vocational interests and abilities should begin as early in the student's

educational program as possible, particularly before the student enters high school or a vocational program.

- Pre assessment should be included as a part of career education or career exploration programs.

- Vocational evaluators should conduct the diagnosis and should prepare the recommendations for all interested parties.

- A variety of assessment tools and methods should be used during the preassessment process including background data (student's family background, medical information, and educational performance); personal interview (obtain information on the students interests, attitudes, and behaviors); formalized testing (documented data on students basic skills and vocational aptitudes and abilities); hands-on assessment (student experiences the type of work involved in the vocational program); and exit interview (information is distributed to all interested parties).

o <u>Individual Education Plan</u>

- All persons responsible for handicapped student should be involved in the development of the individualized education plans (e.g., parents, vocational counselors, special education teachers, vocational teachers).

- The staff of the vocational education department should be included in the preparation of the vocational component of the individualized education plan, particularly the instructors who will be working with the handicapped student.

- Coordination should occur between special education and the vocational education instructors in implementing the objectives stated in the individualized education plan and in evaluating the extent to which the goals are achieved.

o <u>Modifying Curriculum</u>

- Modifications should be made based on the students' individual needs identified through the vocational assessment process and the individualized education plans.

- Professionals such as vocational instructors, special education teachers, special populations coordinators, and administrators should work together to modify the curriculum.

- Modifications should include changing the instructional content, the instructional practices, and the instructional materials to coordinate with students needs.

- Instructional content should be adjusted to focus on subject areas that include self-esteem, basic skills, work attitudes and behaviors, job seeking skills, independent living skills, and prevocational and vocational skills.

- Teachers should use a variety of alternative methods and strategies for instruction based on the levels and learning styles of students (e.g., individualized instruction, competency-based instruction, job simulation, on-the-job training, computer-aided instruction, audiovisual aids, and group instruction).

- Instructional materials should be developed by special education, vocational personnel, and other school personnel to address individual needs.

- Materials used for special populations should include hands-on activities for students.

o Support Services

- Support services should be provided for special populations students and vocational instructors.

- A full-time coordinator should be assigned to ensure that the appropriate services are identified and monitored.

- A combination of educational agencies and community-based organizations should be involved in providing services to special populations (i.e., health, social service, welfare, rehabilitation agencies, and vocational education, special education, and regular education organizations).

- An effective and supportive administration should ensure the implementation of services for the vocational instructor and for the special population student.

- Inservice activities should be provided that address appropriate topics and involve qualified special populations professionals on a consultative basis.

- Vocational instructors should have teacher aides or volunteers available for assistance with instruction in or out of the classroom.

- Vocational support staff should be available to assist vocational instructors with any problems.

o Program Evaluation

- Teachers, students, administrators, parents, and others who are involved in the program should also be involved in the evaluation of the program.

- A variety of input, process, and outcome variables should be considered during the evaluation.

- Evaluation reports should be used for program planning, improvement, accountability, and legal compliance.

o **Student Evaluation**

- Student evaluation should involve monitoring the students' skill development and personal growth in attitudes and behaviors.

- Information obtained through the evaluation process should be used to inform students, parents, and administration of student progress and what is necessary to improve performance.

- Traditional techniques of student evaluation (e.g., written tests) should be altered (e.g., teachers or aides read test, or test items written at lower reading levels) to assess special populations students accurately and according to their unique characteristics.

- Techniques most often used for evaluating special populations students should include formal testing (paper-and-pencil tests), performance testing, work simulation, and observations.

o **Student Characteristics**

Although not a part of the search for characteristics of effective programs, analysis of the data revealed the following general characteristics of special populations students in secondary vocational education programs:

- Immature behavior

- Short attention span

- Easily frustrated and bored

- Negative self-image and lack of self-confidence

- Lack of communication skills

- Performance below grade level

- Poor health characteristics

- Family income generally at or below poverty level

Providing effective vocational education programs for special populations involves a network of interrelated people, processes, and structures. The characteristics of effectiveness identified in this study function independently, yet contribute as a whole in providing quality vocational education programs for special population. The characteristics, however, vary across schools and programs and are likely to vary over time.

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